Abstract

This paper presents a new, simple and efficient segmentation approach, based on a fusion procedure which aims at combining several segmentation maps associated to simpler partition models in order to finally get a more reliable, accurate and a non-overlapped image result. The main objective of the paper is to get a non-overlapping and a reliable output by using k-means and genetic algorithm. The different color spaces are to be fused in our application by the simple (K-means based) clustering technique on an input image. The optimized range for k-means clustering values is obtained by performing genetic algorithm. Image segmentation for six color spaces are performed by k-means. The k-means algorithm is an iterative technique that is used to partition an image into K clusters. The obtained output remains simple to implement, fast, general enough to be applied to various computer vision applications (e.g., motion detection and segmentation). The result aims at developing an accurate and more reliable image which can be used in locating tumors, measure tissue volume, face recognition, finger print recognition and in locating an object clearly from a satellite image and in more.

Reference


Index Terms

Computer Science

Computer Vision

Key words

Genetic Algorithm
Segmentation

k-means Algorithm
Optimization